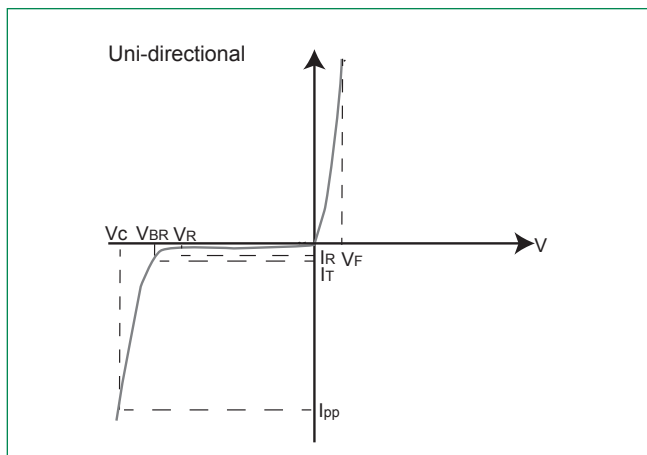


Electrical Characteristics

Part Number (Uni)	Marking	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts) @ I_T		Test Current I_T (mA)	Maximum Clamping Voltage V_C @ I_{PP} (V)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Reverse Leakage I_R @ V_R (μ A)	Agency Approval 
			MIN	MAX					
TPSMA6L5.0A	AEA	5.0	6.40	7.00	10	9.2	65.3	800	X
TPSMA6L6.0A	AGA	6.0	6.67	7.37	10	10.3	58.3	800	X
TPSMA6L6.5A	AKA	6.5	7.22	7.98	10	11.2	53.6	500	X
TPSMA6L7.0A	AMA	7.0	7.78	8.60	10	12.0	50.0	200	X
TPSMA6L7.5A	APA	7.5	8.33	9.21	1	12.9	46.6	100	X
TPSMA6L8.0A	ARA	8.0	8.89	9.83	1	13.6	44.2	50	X
TPSMA6L8.5A	ATA	8.5	9.44	10.40	1	14.4	41.7	20	X
TPSMA6L9.0A	AVA	9.0	10.00	11.10	1	15.4	39.0	10	X
TPSMA6L10A	AXA	10.0	11.10	12.30	1	17.0	35.3	5	X
TPSMA6L11A	AZA	11.0	12.20	13.50	1	18.2	33.0	1	X
TPSMA6L12A	BEA	12.0	13.30	14.70	1	19.9	30.2	1	X
TPSMA6L13A	BGA	13.0	14.40	15.90	1	21.5	28.0	1	X
TPSMA6L14A	BKA	14.0	15.60	17.20	1	23.2	25.9	1	X
TPSMA6L15A	BMA	15.0	16.70	18.50	1	24.4	24.6	1	X
TPSMA6L16A	BPA	16.0	17.80	19.70	1	26.0	23.1	1	X
TPSMA6L17A	BRA	17.0	18.90	20.90	1	27.6	21.8	1	X
TPSMA6L18A	BT A	18.0	20.00	22.10	1	29.2	20.6	1	X
TPSMA6L20A	BVA	20.0	22.20	24.50	1	32.4	18.6	1	X
TPSMA6L22A	BXA	22.0	24.40	26.90	1	35.5	16.9	1	X
TPSMA6L24A	BZA	24.0	26.70	29.50	1	38.9	15.5	1	X
TPSMA6L26A	CEA	26.0	28.90	31.90	1	42.1	14.3	1	X
TPSMA6L28A	CGA	28.0	31.10	34.40	1	45.4	13.3	1	X
TPSMA6L30A	CKA	30.0	33.30	36.80	1	48.4	12.4	1	X
TPSMA6L33A	CMA	33.0	36.70	40.60	1	53.3	11.3	1	X
TPSMA6L36A	CPA	36.0	40.00	44.20	1	58.1	10.4	1	X
TPSMA6L40A	CRA	40.0	44.40	49.10	1	64.5	9.3	1	X
TPSMA6L43A	CTA	43.0	47.80	52.80	1	69.4	8.7	1	X
TPSMA6L45A	CVA	45.0	50.00	55.30	1	72.7	8.3	1	X
TPSMA6L48A	CXA	48.0	53.30	58.90	1	77.4	7.8	1	X
TPSMA6L51A	CZA	51.0	56.70	62.70	1	82.4	7.3	1	X
TPSMA6L54A	REA	54.0	60.00	66.30	1	87.1	6.9	1	X
TPSMA6L58A	RGA	58.0	64.40	71.20	1	93.6	6.5	1	X
TPSMA6L60A	RKA	60.0	66.70	73.70	1	96.8	6.2	1	X
TPSMA6L64A	RMA	64.0	71.10	78.60	1	103.0	5.9	1	X
TPSMA6L70A	RPA	70.0	77.80	86.00	1	113.0	5.3	1	X
TPSMA6L75A	RRA	75.0	83.30	92.10	1	121.0	5.0	1	X
TPSMA6L78A	RTA	78.0	86.70	95.80	1	126.0	4.8	1	X
TPSMA6L85A	RVA	85.0	94.40	104.00	1	137.0	4.4	1	X

I-V Curve Characteristics



- P_{PPM} Peak Pulse Power Dissipation** - Max power dissipation
 V_R Stand-off Voltage - Maximum voltage that can be applied to the TVS without operation
 V_{BR} Breakdown Voltage - Maximum voltage that flows through the TVS at a specified test current (I_I)
 V_C Clamping Voltage - Peak voltage measured across the suppressor at a specified I_{ppm} (peak impulse current)
 I_R Reverse Leakage Current - Current measured at V_R
 V_F Forward Voltage Drop for Uni-directional

Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Figure 1 - TVS Transients Clamping Waveform

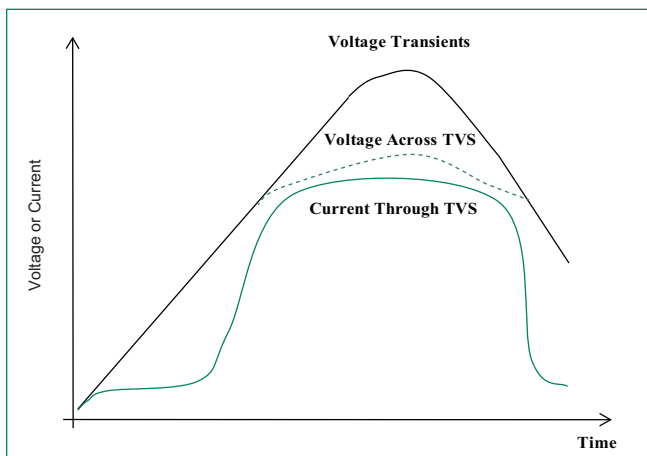
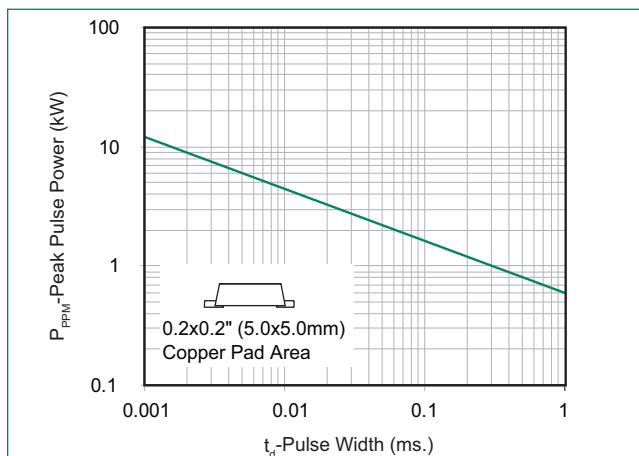


Figure 2 - Peak Pulse Power Rating Curve



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Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted) (Continued)

Figure 3 - Pulse Derating Curve

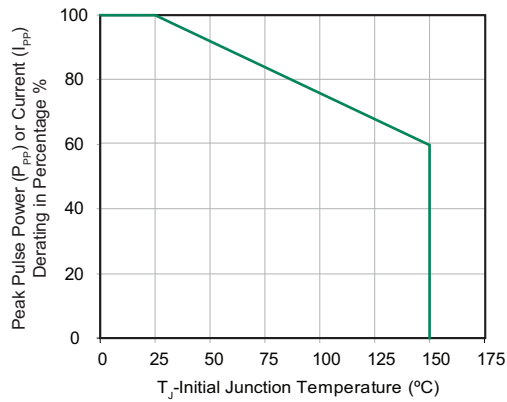


Figure 4 - Pulse Waveform

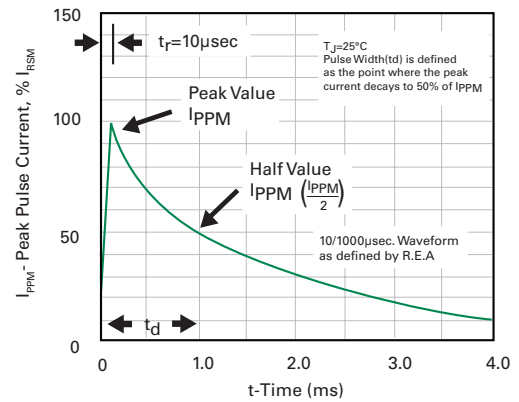


Figure 5 - Typical Junction Capacitance

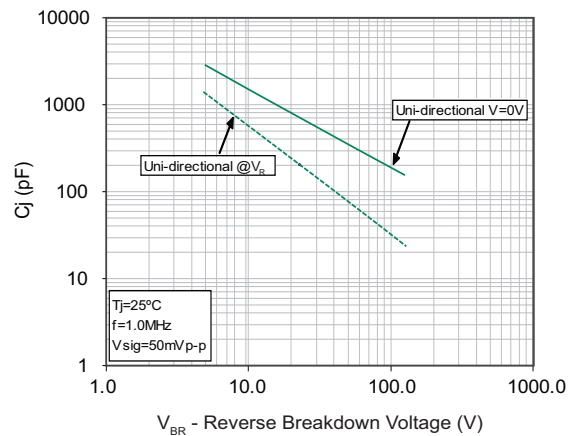
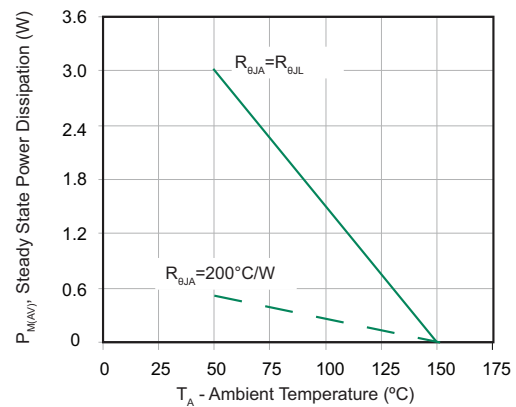
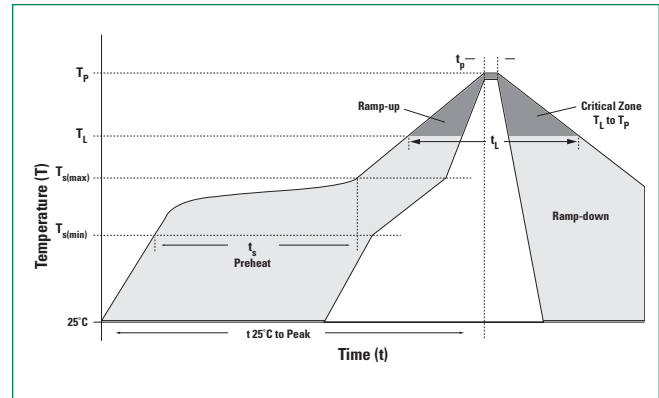


Figure 6 - Steady State Power Dissipation Derating Curve



Soldering Parameters

Reflow Condition		Lead-free assembly
Pre Heat	- Temperature Min ($T_{s(min)}$)	150°C
	- Temperature Max ($T_{s(max)}$)	200°C
	- Time (min to max) (t_p)	60 – 120 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260 ^{+0/-5} °C
Time within 5°C of actual peak Temperature (t_p)		30 seconds max
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		280°C



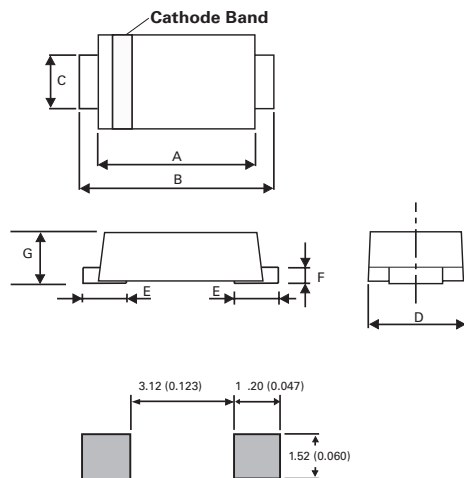
Physical Specifications

Weight	0.002 ounce, 0.061 gram
Case	JEDEC DO-221AC Molded Plastic over glass passivated junction
Polarity	Color band denotes cathode except Bipolar
Terminal	Matte Tin-plated leads, Solderable per JESD22-B102D

Environmental Specifications

Temperature Cycle	JESD22-A104
Pressure Cooker	JESD22-A102
High Temp. Storage	JESD22-A103
HTRB	JESD22-A108
Thermal Shock	JESD22-A106

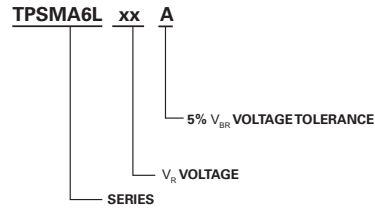
Dimensions



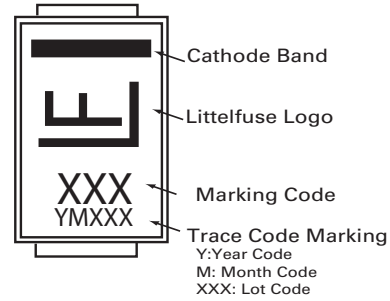
Mounting Pad Layout

Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.156	0.181	3.950	4.600
B	0.189	0.220	4.800	5.600
C	0.049	0.069	1.250	1.750
D	0.088	0.116	2.250	2.950
E	0.030	0.059	0.750	1.500
F	0.005	0.010	0.125	0.250
G	0.035	0.043	0.900	1.100

Part Numbering System



Part Marking System



Packaging

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
TPSMA6LxxA	DO-221AC	3000	Tape & Reel – 12mm/7" tape	EIA RS-481

Tape and Reel Specification

